

Picariæ, and Columbæ, as being of wide distribution, we find that out of the twenty birds of these three orders, all but seven are mentioned in Heuglin's 'Ornithologie Nordost-Africa's.' Of these seven, six, as far as is at present known, are new species peculiar to the island; but one is a Western Asiatic species, although very closely allied to a prevailing North-east African form. Of the six new species, one seems to be generically distinct from any thing yet known, though our impression is that *Rhynchostruthus* will yet be found on Cape Gardafui. The remaining five all belong to prevailing North-east African genera.

2. On the Lepidoptera collected in Socotra by Prof. I. B. Balfour. By ARTHUR G. BUTLER, F.L.S. F.Z.S. &c.

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(Plate XVIII.)

The Lepidoptera collected by Professor Balfour consist of 24 specimens referable to 13 species, of which 11 are Rhopalocera; 7 of the species are new to science.

Of the known forms in this series one is cosmopolitan, two are found in Europe, Asia, and Africa, one throughout Africa, one in S.W. Africa and Abyssinia, and one (with trifling differences) in South Africa. Of the new forms five are allied to previously recorded types from the following localities—one from the Comoro Islands, one from S.W. Africa, one from Zanzibar, and two from Arabia. Without the help of these last two, it would therefore be impossible for any one not acquainted with it to guess at the locality from which this collection had been obtained.

The following is a list of the species:—

RHOPALOCERA.

NYMPHALIDÆ.

DANAIS CHRYSIPPUS (No. 706).

*Papilio chrysippus*, Linnæus, Mus. Lud. Ulr. p. 263 (1764).

A single female specimen of this widely distributed species was obtained.

CALYSISME SOCOTRANA, sp. n. (Plate XVIII. fig. 7.)

(♂ No. 731, ♀ 716.)

Nearest to *C. anynana* from Johanna (Comoro group). Olive-brown; wings above with paler outer border traversed by a wavy submarginal brown line; a black marginal line; fringe slightly darker than the outer border: primaries crossed beyond the cell from costa to first median branch by a slightly undulated pale-bordered dusky line; two ocelli of the ordinary type, one towards apex about a quarter the size (*i. e.* half the diameter) of the other, which is placed on

the first median interspace : secondaries with a scarcely perceptible small blind ocellus on the first median interspace. Wings below paler, transversely striated with darker lines, the disk (particularly in the female) suffused with lilacine grey, the ocelli with pale zones, and in the male<sup>1</sup> with whitish instead of orange irides, those of the primaries situated as on the upper surface, but the subapical one, particularly in the female, greatly reduced in size ; the outer border with sharply defined zigzag inner edge towards apex, in the female suffused with ferruginous, the intersecting submarginal line being dark ferruginous ; a broad central belt, the inner edge of which is obsolete in the male but sharply defined by a white-bordered ferruginous line in the female ; the outer edge slightly undulated and angulated on all the wings, dark brown with pale border in the male, ferruginous with white border in the female ; secondaries with seven discal ocelli, of which the second, third, and seventh are very small and the fifth the largest. Expanse of wings, ♂ 1 inch 6 lines, ♀ 1 inch 9 lines.

Two worn males and one fresh female were obtained.

CHARAXES BALFOURI, sp. n. (Plate XVIII. fig. 6.)

(No. 741.)

Allied to *C. varanes*, from which it differs as follows:—The outer margins of all the wings dentated at the extremities of all the veins, that of the secondaries with *two tails* of the ordinary type, that at the end of the first median branch being rather short (3 to 4 millimetres), and that at the end of the third branch of about double the length, more slender and *gradually tapering towards the point* : wings above deep mahogany red, rather paler on the basal half ; primaries with all the markings as in *C. varanes*, excepting that the spots beyond the cell are not so black : secondaries with the rounded black spots only distinct towards the apex ; *outer border black with a marginal series of pale blue lunules fringed with snow-white*. *Body laky brown*, prothorax and head olivaceous. Under surface of wings very like *C. varanes*, but the general colour greener, most like that of the darkest Natal specimens, the black characters on the basal area better marked, the white stripe limiting the broad basal area wider, more diffused externally, and *distinctly angulated* on all the wings : the ocelli on the secondaries slightly narrower, and the outer margin of these wings bordered with *a series of large black and white lunules*. Expanse of wings 3 inches 8 lines.

One specimen of this extremely interesting species was captured.

The allied species *C. varanes* has hitherto been referred to the genus *Philognoma* on account of its only having one peculiarly shaped tail to the secondaries ; but the arrival of this form from Socotra necessitates its transfer to *Charaxes*, since we now possess a species with the structure of the latter genus, and the general character of the supposed *Philognoma*.

<sup>1</sup> Possibly owing to fading.

## PYRAMEIS CARDUI.

*Papilio cardui*, Linnæus, Fauna Suecica, p. 276, n. 1054 (1761).

A fragment of this cosmopolitan species.

## ACRÆA NEOBULE. (Plate XVIII. fig. 5.)

*Acræa neobule*, Doubleday & Hewitson, Gen. Diurn. Lep. pl. 19. fig. 3 (1848).

(No. 746.)

One female of this species was caught; it differs from specimens which I have examined from the Congo and Abyssinia in the greater size of all the black spots on its wings, and in having the base of the secondaries black spotted with red, owing to the confluence of the black markings. These differences, however, may be due to simple variation; and therefore it would not be safe, with only one specimen, to regard them as specific characters.

## HYPANIS CORA. (Plate XVIII. fig. 4.)

*Hypanis cora*, Feisthamel, Ann. Soc. Ent. France, 1850, p. 249.

(No. 726.)

A pair of this species, only differing from South-African specimens in the slightly wider red-brown belts on the under surface of the secondaries and the consequently narrower bands of white spots. It would be impossible to decide from a single pair whether these apparently trivial distinctions are constant and confined to the island whence the specimens were obtained.

## PAPILIONIDÆ.

## TERACOLUS NIVEUS, sp. n. (Plate XVIII. fig. 1.)

(♀ No. 721.)

♂. Nearest to *T. evagore*, *demagore*, and *liagore*, but differing from all in the considerably smaller extent of the orange apical patch on the primaries. Wings above snow-white; primaries above with a narrow triangular orange apical patch from costa to third median branch, bounded externally by five hastate black spots and in front by an abbreviated black costal line; body black, thorax clothed with silvery hairs, abdomen cream-coloured at the sides. Under surface white, each wing with a small black dot at the end of the cell, primaries indistinctly showing the orange of the upper surface through their texture; secondaries with a greyish costal spot, and one or two dots of the same colour on the disk beyond the cell, basi-abdominal area slightly speckled with black. Expanse of wings 1 inch 5 lines.

♀. Snow-white, base speckled with blackish; primaries above with a dot at the end of the cell, four spots in an oblique series, more than halfway between the cell and apex, and four or five squamose marginal spots between the apex and the third median branch, black; secondaries with four decreasing marginal black spots between the apex and the second median branch; body blackish, clothed with

white hairs, but rather paler than in the male. Primaries below white, a black dot at the end of the cell; four brownish spots in an oblique series limiting the inner edge of the apical area, which is cream-coloured and speckled with grey: secondaries cream-coloured, speckled with grey; a black dot at the end of the cell; an angulated series of seven more or less distinct brownish spots across the disk: body snow-white. Expanse of wings 1 inch 4 lines.

One pair of this pretty little species was obtained.

*TERACOLUS CANDIDUS*, sp. n. (Plate XVIII. fig. 2.)

(♂ No. 701, ♀ 736.)

♂. Allied to the preceding, but smaller; the primaries with an oblique subapical orange patch, five pyriform marginal black spots; secondaries with two apical marginal black dots: below much as in *T. niveus*. Expanse of wings 1 inch 2 lines.

♀. Chiefly differs from the preceding in its smaller size and less pronounced markings. Expanse of wings 1 inch 2 lines.

Three males and one female obtained. I think it may prove to be a variety of the preceding species, although the difference in the coloration at the apex of the primaries in the male is very remarkable.

*CATOPSILIA PYRENE* (No. 711).

*Colias pyrene*, Swainson, Zool. Ill. i. pl. li. (1820-21).

One male specimen.

*SYNCHLOË ANOMALA*, sp. n. (Plate XVIII. fig. 3.)

(No. 761.)

♀. Most like *S. protodice* of North America, but larger than any species of the group. Wings above white, speckled with black scales at the base: primaries with the costal border to the end of the cell heavily black-speckled; a large subquadrate black spot on the discocellulars; a very irregular black discal band formed of large oblong spots alternating with lunules, only separated from a rather broad external border by a series of six unequal white spots; this border is broad at apex, and gradually tapers to the external angle: secondaries with angular submarginal series of five black spots (the first on costal border large and quadrate), separated from a tapering brown border by spots of the ground-colour as in the primaries: body above blackish, clothed with silky grey hairs; prothorax clothed in front with short brown hair; palpi white, with brown edges; antennæ pale brown. Under surface white, broadly but sparsely speckled with black scales towards the base: primaries with the discocellular spot, discal band, and dusky basal half of costa as above; outer border obsolete, this part of the wing being, however, apparently greyish owing to its semitransparency, and slightly shot with pink: secondaries with slight pink reflections; the markings of the upper surface only indistinctly visible through the texture of the wing: body below white. Expanse of wings 2 inches 6 lines.



One rather worn female.

The species is of the size and general form of *Belemais abyssinica*; but its pattern and coloration seem to ally it to the species of *Synchlœ*; the possession of a male specimen would satisfactorily decide whether or not it is an unusually aberrant *Belemais*.

### HEPERIIDÆ.

HEPERIA JUCUNDA, sp. n. (Plate XVIII. fig. 8.)

(Nos. 751 ♂, 766 ♀.)

Dull blackish-brown: primaries shot with shining green and bronzy brown towards the base; edge of costal margin yellow towards the base, but white towards the apex; fringe of outer margin snow-white: secondaries with costal border and anal angle velvety black; the hairy clothing of the basal area greenish grey, of the abdominal fold pale testaceous; a patch of ochreous hair just above the anal angle; fringe with an ochreous basal line, externally snow-white to the first median branch, where it changes to bright reddish orange: head and thorax very dark green; the palpi (excepting their terminal joint and external margin, which are velvety black), a spot at the base of each antenna, and the back of the head bright reddish orange; abdomen dull black, with greyish hind margins to the segments, anus surrounded by reddish-orange hairs. Wings below greyish brown: primaries with a large diffused purplish-black basal patch; costal margin orange towards the base, but afterwards white; an abbreviated line on the submedian vein, a second on the inner margin, and the fringe white: secondaries with the fringe as above; a triangular spot within the end of the cell, a large elongated patch enclosing a black spot on the interno-median interspace, and an interrupted squamose streak running upwards towards the apex from its external extremity orange; a circular spot near the outer margin on the interno-median interspace, and a second at anal angle confluent with the fringe, reddish orange: pectus blackish; femora and tibiæ streaked with pale buff and clothed with long reddish-orange hairs, venter black at the sides, with two or three small orange dots; a broad central longitudinal reddish-orange stripe. Expanse of wings, ♂ 2 inches 6 lines, ♀ 2 inches 9 lines.

Three males and one female.

The female specimen is rather paler than the male; but this may be partly due to fading. The species comes nearest to *H. taranis*.

### HETEROCERA.

#### LITHOSIIDÆ.

DEIOPEIA PULCHELLA (No. 756).

*Tinea pulchella*, Linnæus, Syst. Nat. i. 2, p. 884, no. 349 (1766).

Two examples, one of which has the scarlet markings on the primaries larger than usual.

## HYDROCAMPIDÆ.

## OLIGOSTIGMA INCOMMODA, sp. n. (No. 540).

Nearest to *O. curvifera* of North America. Snow-white: the primaries above crossed near the base by an angular brownish band (probably pale orange with black margins in fresh examples); second band pale orange with black margins, beginning beyond the cell in the form of a 3, the lower extremity of which is carried below the median vein to the origin of the first branch, where it turns off at an angle, and runs transversely to the inner margin; a black-edged transverse pale-orange spot closing the cell; a blackish-edged pale orange sinuated submarginal band; outer border apparently pale orange, edged internally with black scales: secondaries crossed near the base and at the middle by bands of black scales; an irregular black-edged orange discal band, its outer margin zigzag; outer border pale orange, edged internally with black. Under surface uniform snow-white. Expanse of wings 9 lines.

One female specimen so much rubbed that only familiarity with the genus enables one to trace the direction of the bands on the primaries.

## EXPLANATION OF PLATE XVIII.

- Fig. 1. *Teracolus niveus*, ♂ and ♀ (upperside), p. 177.
2. *Teracolus candidus* (upperside), p. 178.
3. *Synchlœ anomala* (both surfaces), p. 178.
4. *Hypanis cora* (underside), p. 177.
5. *Acræa neobule* (underside), p. 177.
6. *Charaxes balfouri* (both surfaces), p. 176.
7. *Calysime socotrana* (both surfaces), p. 175.
8. *Hesperia jucunda* (both surfaces), p. 179.

3. On some Points in the Anatomy of the Koala (*Phascolarctos cinereus*). By W. A. FORBES, B.A., F.L.S., F.Z.S., Prosector to the Society.

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On April 28th of last year (1880), as already recorded in the Society's Proceedings<sup>1</sup>, the Society purchased for its collection the first living Koala (*Phascolarctos cinereus*) ever brought to Europe. The animal, a young female, continued to do well and thrive after its arrival at the Gardens, and on a diet of fresh *Eucalyptus*-leaves, which were substituted after a while for the dried ones on which it had been kept alive during the voyage and the first part of its stay in this country, became daily in better condition and more active. Being a pet animal, accustomed to being caressed, it was thought better not to put it in a cage; so a room for its use was fitted up in the Superintendent's office. Here, under the charge of a special at-

<sup>1</sup> P. Z. S. 1880, p. 355; where a woodcut of it, from the pencil of Mr. Wood, is given.